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## Universal Display Corporation's White OLED Technology Exceeds 100 lm/W - a Major Milestone for Solid-State Lighting

COMPANY'S WHITE OLEDs, ENABLED THROUGH THE USE OF ITS HIGH-EFFICIENCY PHOSPHORESCENT OLED TECHNOLOGY, HAVE POTENTIAL TO CREATE SIGNIFICANT ECONOMIC, ENERGY AND ENVIRONMENTAL BENEFITS

EWING, N.J.--([BUSINESS WIRE](#))--Universal Display Corporation (NASDAQ:PANL), an innovator behind today's and tomorrow's displays and lighting through its UniversalPHOLED™ phosphorescent OLED technology, today announced that the Company has successfully demonstrated a record-breaking white OLED with a power efficacy of **102 lumens per watt (lm/W) at 1000 cd/m<sup>2</sup>** using its proprietary, high-efficiency phosphorescent OLED technology.

"Reaching 100 lumens per watt is a tremendous accomplishment for our company and the industry. We would like to thank the U.S. Department of Energy for their continued support of our white OLED research and development"

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Just last month at the Society for Information Display Symposium, Universal Display announced a new record of 72 lm/W. Since then, Universal Display has continued to make significant advances in this area – achieving yet another major milestone toward commercialization. The milestone also demonstrates the potential of white OLEDs to offer significant energy savings and environmental benefits to end users around the world. For the first time, white OLEDs have surpassed the power efficacy of the two incumbent indoor lighting technologies - incandescent bulbs are less than 15 lm/W and most fluorescent lamps are 60 - 90 lm/W.

Funded in part by the U.S. Department of Energy (DOE) through its Solid-State Lighting initiative, Universal Display's 102 lm/W milestone is a significant achievement toward the DOE's roadmap goal of a 150 lm/W commercial OLED light source by 2015.

This WOLED light source also offers a pleasing white emission with a color rendering index (CRI) of 70 and a coordinated color temperature (CCT) of 3900 Kelvin. This all-PHOLED structure uses complementary materials from Universal Display's collaboration partners at LG Chem and Nippon Steel Chemical Company.

"Reaching 100 lumens per watt is a tremendous accomplishment for our company and the industry. We would like to thank the U.S. Department of Energy for their continued support of our white OLED research and development," said Steven V. Abramson, President and Chief Executive Officer of Universal Display. "Through this record milestone announced today, white OLEDs are moving a significant step closer to becoming a key participant in the \$100 billion per year lighting industry."

Electric bills for lighting alone are over \$200 billion per year on a worldwide basis. Consuming about 20% of the total electricity produced, lighting is also one of the largest causes of greenhouse gas emissions. With society's demand for

lighting continuing to grow rapidly, the need for more energy-efficient lighting is truly critical – for economic as well as environmental reasons.

Through the use of Universal Display's PHOLED technology, power-efficient white OLEDs have the potential to reduce energy consumption dramatically and to lower the amount of by-product heat, which creates additional energy and environmental burdens. White OLEDs are also environmentally benign, especially compared to mercury-containing fluorescent lamps and newer compact fluorescent lamps (CFLs). It has been estimated that white OLEDs could worldwide save well over \$20 billion in electric costs and over 9 million metric tonnes of carbon emissions from the U.S. alone by 2016.

Combining these important 'green' features with a very thin, lightweight and durable form factor, white OLEDs offer significant new lighting design opportunities. White OLEDs are also readily color tunable, from cool to warm whites, with extremely pleasing white emission that simulates healthful, natural lighting. Compared to inorganic LEDs, white OLEDs are excellent diffuse emitters with the potential to be significantly more cost-effective in high-volume production. Moreover, OLEDs are a cool source of light, in contrast to inorganic LEDs where the removal of heat remains a significant challenge.

Today, Universal Display's proprietary PHOLED technology and materials are in commercial use for the production of low power consumption OLED displays for a variety of portable electronics applications. In these and emerging OLED applications such as televisions, PHOLEDs are also critical for providing excellent performance characteristics that translate into energy savings, environmental benefits and cost effectiveness.

To see how Universal Display Corporation is changing the face of the display and lighting industries, please visit the Company at [www.universaldisplay.com](http://www.universaldisplay.com).

#### About Universal Display Corporation

Universal Display Corporation is a world leader in developing and commercializing innovative OLED technologies and materials for use in flat panel displays, solid-state lighting products, electronic communications and other opto-electronic devices. Universal Display is working with a network of world-class organizations, including Princeton University, the University of Southern California, the University of Michigan, and PPG Industries, Inc. Universal Display has also established numerous commercial relationships with companies such as Chi Mei EL Corporation, DuPont Displays, Inc., Konica Minolta Technology Center, Inc., LG Display Co., Ltd., Samsung SDI Co., Seiko Epson Corporation, Sony Corporation, Tohoku Pioneer Corporation and Toyota Industries Corporation. Universal Display currently owns or has exclusive, co-exclusive or sole license rights with respect to more than 850 issued and pending patents worldwide.

Universal Display is located in the Princeton Crossroads Corporate Center in Ewing, New Jersey, minutes away from its research partner at Princeton University. Universal Display's state-of-the-art facility is designed to further technology and materials development, technology transfer to manufacturing partners and work with customers to develop OLED products that meet their needs. Visit Universal Display on the Web at [www.universaldisplay.com](http://www.universaldisplay.com).

All statements in this document that are not historical, such as those relating to Universal Display Corporation's technologies and potential applications of those technologies, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. You are cautioned not to place undue reliance on any forward-looking statements in this document, as they reflect Universal Display Corporation's current views with respect to future events and are subject to risks and uncertainties that could cause actual results to differ materially from those contemplated. These risks and uncertainties are discussed in greater detail in Universal Display Corporation's periodic reports on Form 10-K and Form 10-Q filed with the Securities and Exchange Commission, including, in particular, the section entitled "Risk Factors" in Universal Display Corporation's annual report on Form 10-K for the year ended December 31, 2007. Universal Display Corporation disclaims any obligation to update any forward-looking statement contained in this document.

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